

**Expected Difference in Earnings
Samuel Biers**

Prepared at the Request of

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Attachment No. 2

Expected Difference in Earnings Samuel Biers

Summary:

Mr. Biers discontinued employment as a magistrate on May 31, 2011. Mr. Biers reports that he has been employed sporadically since his employment as a magistrate ended. The purpose of this report is to calculate the present value of the expected difference in Mr. Biers's earnings as a result of the change in employment status.

The present value of the difference in past earnings (back pay) is \$287,042. (The date used to demarcate back pay and front pay is August 3, 2016). The present value of the difference in future earnings (front pay) is \$1,272,406 for a total present value of difference in earnings of **\$1,559,449**. (Due to rounding to the nearest dollar the sums shown may not agree with the components shown throughout this report.)

Information reviewed includes:

A questionnaire concerning Mr. Biers;
Mr. Biers's W-2 and 1040 for 2013;
State of North Carolina *2015 Compensation & Benefits Report*;
State Human Resources Manual concerning longevity pay;
State of North Carolina Article 16 concerning magistrates' pay;
State of North Carolina *Benefits Eligibility*; and,
Interest rates on Treasury Inflation Protected Securities from the Federal Reserve website.

In addition, I have spoken with Mr. Biers.

The amounts calculated in this report do not include the value of any intangible losses that may have occurred such as a diminished ability to enjoy life, emotional distress or mental anguish.

Difference in Earnings:

Tables 1, 2 and 3 contain the calculations. Mr. Biers discontinued working as a magistrate when he was 43.83 years of age. The amounts in *Anticipated Earnings as Magistrate* are based upon: Mr. Biers's report of his wages at the time he discontinued working; State of North Carolina Article 16 concerning magistrates' pay; and, State Human Resources Manual concerning longevity pay.

Benefits of 34.91 percent of wages are added to wages to arrive at earnings. The percentage is from the State of North Carolina *2015 Compensation & Benefits Report*.

The amount entered for age 43 is less as it is for .17 of a year. Mr. Biers reports that he intended to work to age 70.

The entries in the column *Actual and Expected Earnings Given Current Situation* reflect Mr. Biers's actual earnings based upon the tax information and amounts reported by Mr. Biers.

The *Difference in Earnings* is *Anticipated Earnings as Magistrate* less *Actual and Expected Earnings Given Current Situation*.

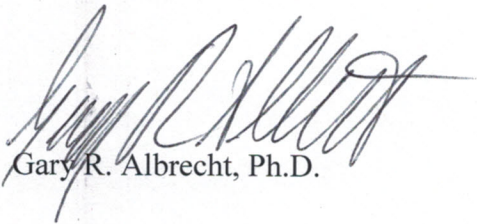
Present Value of Difference in Earnings:

The sum of *Difference in Earnings (No Future Inflation)* in Table 2 is \$1,656,082. Using an inflation rate of 3.00 % I calculated the series *Difference in Earnings (Inflation)* in Table 3. The sum of *Difference in Earnings (Inflation)* is \$1,821,528. The amount required to provide the stream was calculated using a real interest rate in the no-inflation and inflation situations. (The U.S. Supreme Court suggests using a real rate.) The real rate is derived from the interest rates on Treasury Inflation Protected Securities as reported on the Federal Reserve website. The real rate used is .65 percent. The rate of inflation does not affect the present value required for compensation given the real rate (see Albrecht and Krueger, *The Earnings Analyst* and Albrecht and Moorhouse, *Journal of Forensic Economics*), which fact is recognized by the U.S. Supreme Court.

The *Present Value of Difference in Earnings* is **\$1,559,449** in both the inflation and no-inflation situations.

Conclusion:

The total present value of difference in Mr. Biers's anticipated earnings as a magistrate and anticipated earnings given his current situation is **\$1,559,449**.



Gary R. Albrecht, Ph.D.

(Table 1)

Difference in Earnings (No Future Inflation)

Age	Anticipated Earnings as Magistrate	Actual and Expected Earnings Given Current Situation	Difference in Earnings	Cumulative Difference in Earnings
43	7,487	0	7,487	7,487
44	58,686	0	58,686	66,173
45	60,036	5,700	54,336	120,508
46	61,416	8,861	52,555	173,064
47	62,829	8,500	54,329	227,393
48	64,150	4,500	59,650	287,042
	314,603	27,561	287,042	
49	64,150	8,500	55,650	342,692
50	64,150	8,500	55,650	398,342
51	64,150	8,500	55,650	453,992
52	70,099	8,500	61,599	515,591
53	70,099	8,500	61,599	577,190
54	70,099	8,500	61,599	638,789
55	70,099	8,500	61,599	700,389
56	76,764	8,500	68,264	768,652
57	76,764	8,500	68,264	836,916
58	76,764	8,500	68,264	905,180
59	76,764	8,500	68,264	973,444
60	76,764	8,500	68,264	1,041,707
61	76,764	8,500	68,264	1,109,971
62	76,764	8,500	68,264	1,178,235
63	76,764	8,500	68,264	1,246,499
64	76,764	8,500	68,264	1,314,763
65	76,764	8,500	68,264	1,383,026
66	76,764	8,500	68,264	1,451,290
67	76,764	8,500	68,264	1,519,554
68	76,764	8,500	68,264	1,587,818
69	76,764	8,500	68,264	1,656,082
	1,547,539	178,500	1,369,039	
	1,862,143	206,061	1,656,082	

(Table 2)

Present Value of Difference in Earnings (No Future Inflation)

Age	Difference in Earnings (No Future Inflation)	Real Discount Factor	Present Value of Difference in Earnings	Cumulative Present Value of Difference in Earnings
43	7,487	1.00000	7,487	7,487
44	58,686	1.00000	58,686	66,173
45	54,336	1.00000	54,336	120,508
46	52,555	1.00000	52,555	173,064
47	54,329	1.00000	54,329	227,393
48	59,650	1.00000	59,650	287,042
	<u>287,042</u>		<u>287,042</u>	
49	55,650	0.99351	55,288	342,331
50	55,650	0.98706	54,930	397,261
51	55,650	0.98065	54,573	451,834
52	61,599	0.97429	60,015	511,849
53	61,599	0.96796	59,626	571,475
54	61,599	0.96168	59,239	630,714
55	61,599	0.95544	58,854	689,568
56	68,264	0.94924	64,799	754,366
57	68,264	0.94308	64,378	818,744
58	68,264	0.93695	63,960	882,704
59	68,264	0.93087	63,545	946,249
60	68,264	0.92483	63,132	1,009,382
61	68,264	0.91883	62,723	1,072,104
62	68,264	0.91286	62,316	1,134,420
63	68,264	0.90694	61,911	1,196,331
64	68,264	0.90105	61,509	1,257,840
65	68,264	0.89520	61,110	1,318,950
66	68,264	0.88939	60,713	1,379,663
67	68,264	0.88362	60,319	1,439,982
68	68,264	0.87788	59,928	1,499,910
69	68,264	0.87218	59,539	1,559,449
	<u>1,369,039</u>		<u>1,272,406</u>	
	<div>1,656,082</div>		<div>1,559,449</div>	

(Table 3)

Present Value of Difference in Earnings (Future Inflation)

Age	Difference in Earnings (Future Inflation)	Nominal Discount Factor	Present Value of Difference in Earnings	Cumulative Present Value of Difference in Earnings
43	7,487	1.00000	7,487	7,487
44	58,686	1.00000	58,686	66,173
45	54,336	1.00000	54,336	120,508
46	52,555	1.00000	52,555	173,064
47	54,329	1.00000	54,329	227,393
48	59,650	1.00000	59,650	287,042
	<u>287,042</u>		<u>287,042</u>	
49	57,319	0.96457	55,288	342,331
50	59,039	0.93040	54,930	397,261
51	60,810	0.89744	54,573	451,834
52	69,330	0.86564	60,015	511,849
53	71,410	0.83497	59,626	571,475
54	73,553	0.80539	59,239	630,714
55	75,759	0.77686	58,854	689,568
56	86,475	0.74934	64,799	754,366
57	89,069	0.72279	64,378	818,744
58	91,741	0.69718	63,960	882,704
59	94,493	0.67248	63,545	946,249
60	97,328	0.64866	63,132	1,009,382
61	100,248	0.62568	62,723	1,072,104
62	103,255	0.60351	62,316	1,134,420
63	106,353	0.58213	61,911	1,196,331
64	109,543	0.56151	61,509	1,257,840
65	112,830	0.54161	61,110	1,318,950
66	116,215	0.52242	60,713	1,379,663
67	119,701	0.50392	60,319	1,439,982
68	123,292	0.48606	59,928	1,499,910
69	126,991	0.46884	59,539	1,559,449
	<u>1,534,486</u>		<u>1,272,406</u>	
	<div>1,821,528</div>		<div>1,559,449</div>	

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AREAS OF RESEARCH INTEREST:

Forensic Economics

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EDUCATION:

Ph.D., Economics, Indiana University, 1986

M.A., Economics, Indiana University, 1978

B.A., Economics and Philosophy, Tulane University, 1974

EMPLOYMENT:

1988-

President of Albrecht Economics

1990-1999

Adjunct Associate Professor, Department of Economics, Wake Forest University

1987-1989

Assistant Professor, Department of Economics, Wake Forest University

1984-1987

Director of Econometric Modeling and Research Scientist, Institute for Public Policy and Business Research, University of Kansas, Lawrence, Kansas. Main responsibility was the design and development of an econometric forecasting model for the state of Kansas. Other responsibilities included supervising impact studies, writing quarterly outlook monographs for publication in the *Kansas Business Review*, and, serving on the editorial board for the *Review*.

1978-1984

Research Associate, Division of Research, School of Business, Indiana University, Bloomington, Indiana. Responsibilities included the development of and forecasting with state and sub-state econometric models, and, assistance in the generation of forecasts with a national econometric model.

1980-1981

Lecturer, School of Business, Indiana University, Bloomington, Indiana

1976-1978

Associate Instructor, Department of Economics, Indiana University, Bloomington, Indiana

SERVICE TO THE PROFESSION

2007-2010

Vice President and Member of the Board of Directors, National Association of Forensic Economics

1999-2003

CEO of Society of Litigation Economists, a not-for-profit organization dedicated to insuring high standards in the application of economic principles to valuations. The membership of the Society of Litigation Economists is limited to economists who have demonstrated a high level of expertise in forensic economics.

1991-Present

Referee, *Journal of Forensic Economics*

1991-Present

Referee, *Journal of Legal Economics*

COURSES TAUGHT:

Econometrics
Economic Forecasting
Introductory Economics
Regional Economics
Statistics
Microeconomics

PUBLICATIONS:

"The U.S. Approach to Computing Economic Damages Due to Personal Injury and Wrongful Death," (with Kurt V. Krueger) in *Personal Injury and Wrongful Death Damages Calculations: Transatlantic Dialogue*, John O. Ward and Robert J. Thornton, ed., Emerald Books, 2009, pp. 193-232.

"The Present Value of Lost Financial Support Due to Wrongful Death," (with Kurt V. Krueger) *Journal of Legal Economics*, Vol. XV, No. 1, August 2008, pp. 35-42.

"A Review of the Economic Foundations of Earnings and Discounting Theories Used in Forensic Economics," (with Kurt V. Krueger) *The Earnings Analyst*, Volume IX , Spring 2007, pp. 1-34.

"Assessing Economic Damages in Personal Injury and Wrongful Death Litigation: The State of North Carolina," (with George A. Schieren) *Journal of Forensic Economics*, Vol. XIX, No. 1, Winter 2006, pp. 89-101.

"Introduction to the Whole-time Concept," (with Kurt V. Krueger and John O. Ward) *Journal of Forensic Economics*, Vol. XIV, No. 1, Winter 2001, pp. 3-8.

"It's About Time: The Forensic Economic Evaluation," (with Kurt V. Krueger and John O. Ward) *Journal of Forensic Economics*, Vol. XI, No. 3, Fall 1998, pp. 203-213.

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"Economic Valuation of Life: A Cumulative Approach," in *The New Hedonics Primer for Economists and Attorneys*, 2nd Edition, John O. Ward, ed., Tucson, Arizona; Lawyers & Judges Publishing Co. 1996, pp. 171-175.

Journal of Forensic Economics, Volume VII, No. 3, Gary R. Albrecht, editor. Includes "Modeling Taxes in Personal Injury and Wrongful Death Award Calculations," pp. 1-4.

"The Application of the Hedonic Damages Concept to Wrongful Death and Personal Injury Litigation," *Journal of Forensic Economics*, Volume VII, No. 2, Spring/Summer 1994, pp. 143-150.

"Compensatory Damages and the Appropriate Discount Rate: Comment," *Journal of Forensic Economics*, Volume VI, No. 3, Fall 1993, pp. 271-272.

"The Role of Productivity and Prices in Forecasting Wage Rates," (with Kurt V. Krueger) *Journal of Forensic Economics*, Volume V, No. 3, Fall 1992, pp. 187-195.

"Issues Affecting the Calculated Value of Life," *Journal of Forensic Economics*, Volume V, No. 2, Spring/Summer 1992, pp. 97-104, and in *A Hedonics Primer for Economists and Attorneys*, John O. Ward, ed., Tucson, Arizona; Lawyers & Judges Publishing Co. 1992, pp. 197-205.

"Calculating the Value of a Closely Held Firm," *Journal of Legal Economics*, Volume 1, No. 3, December 1991, pp. 1-4.

"Calculating the Lost Pleasure of Life Due to Injury," *Trial Briefs*, Volume 23, No. 3, Third Quarter, 1991, pp. 16-17.

"Forecasting the Earnings of a Partially Disabled Individual," *Journal of Legal Economics*, Volume 1, No. 2, July 1991, pp. 50-57.

"The Valuation of a Closely Held Firm," *Trial Briefs*, Volume 22, No. 4, Fourth Quarter, 1990, pp. 37-39.

"The Valuation of a Closely Held Firm: Comment," *Journal of Forensic Economics*, Volume 3, No. 1, December, 1989, pp. 65-68.

"On the Derivation and Consistent Use of Growth and Discount Rates for Future Earnings," (with John C. Moorhouse), *Journal of Forensic Economics*, Volume 2, No. 3, August, 1989, pp. 95-102.

"The Kansas Economy," (with Anthony Redwood), in H. Flentje ed., *Kansas Policy Choices*, Lawrence, Kansas: University of Kansas Press, 1986.

"An Economic Perspective of Rate Suppression Legislation," (with Douglas Houston and Anthony Redwood), *Kansas Law Review*, Volume 33, No. 3, 1985.

"Kansas Exports and Economic Development," (with Shirley Sicilian and Kurt Krueger), *Kansas Business Review*, Fall, 1985.

"The Kansas Econometric Forecasting Model," *Kansas Business Review*, Fall, 1985.

"Long-Term Structural Changes in the Kansas Economy," (with Anthony Redwood and Daniel Petree), *Kansas Business Review*, Winter, 1984-1985.

"An Introduction to the Econometric Model of Indiana," (with R. L. Pfister), *Indiana Business Review*, February, 1981.

"Testing for Causality in Regional Econometric Models," (with R. Jeffery Green), *International Regional Science Review*, Winter, 1979.

ACADEMIC PAPER PRESENTATIONS:

"Scheduled Economic Damages and Tort Reform in the United States," (with John O. Ward and Kurt V. Krueger) Allied Social Science Association Annual Meetings: National Association of Forensic Economics National Meetings. Chicago, IL, January 2007.

"Scheduled Damages and Tort Reform: An International Analysis and a Proposal for Consideration in the United States," (with Kurt V. Krueger and John O. Ward) NAFE 2006 International Meetings. Florence, Italy, May 2006.

"Assessing Economic Damages in Personal Injury and Wrongful Death Litigation: The State of North Carolina," (with George A. Schieren) Annual Meeting: Western Economic International Association. San Francisco, CA, July 2005.

"A Primer on Earnings Growth and Discounting," (with Kurt V. Krueger) Annual Meeting: Southern Economic Association. New Orleans, LA, November 2004.

"Eunomic Damage Analysis," (with Kurt V. Krueger and John O. Ward) American Social Science Association Annual Meeting: American Economic Association Annual Meeting. Atlanta, GA, January 2002.

"Estimating Economic Damages as a Result of Diminished Productivity in Work and Non-Work Time," (with Kurt V. Krueger and John O. Ward) Annual Western Economic Association Annual Conference, San Diego, CA, July 1977.

"The Objective Science of Forensic Economics," presented at the Sixty-Eighth Annual Western Economic Association Conference, Lake Tahoe, June 22, 1993.

"Proof that Saving with Short-Term Bonds Minimizes Purchasing Power Fluctuation Risk," presented at the American Economic Association Conference, New Orleans, January 4, 1992.

"Income Taxes and Economic Loss Calculations," (with Kurt V. Krueger) presented at the Sixty-Sixth Annual Western Economic Association Conference, Seattle, June 30, 1991.

"The Adequacy of Proxy Variables in Forecasting Wage Rates," presented at the Sixty-Fifth Annual Western Economic Association Conference, San Diego, June 30, 1990.

"A Short-Run Employment Function When Adjustment Costs are Linear," presented at the Sixty-First Annual Western Economic Association Conference, San Francisco, July, 1986.

"Choosing Among Forecasted National Variables for Use as Inputs Into Regional Forecasting Models," (with R. Jeffery Green), presented at the Twenty-Seventh Annual Mountain-Plains Economic Conference, 1985.

WORKING PAPER:

"The Kansas Econometric Model," Institute for Public Policy and Business Research, The University of Kansas, July, 1987.

AFFILIATIONS:

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